

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

- 1        1. (original)        An IEEE 802.11 compliant wireless local area network (WLAN)  
2                multiprotocol device comprising:  
3                        one frequency band agile, complementary code keying (CCK) and orthogonal  
4                frequency division multiplex (OFDM) modulation-capable radio;  
5                        a data flow structure framework which organizes and routes transmitted and  
6                received data packets within the multiprotocol device; and  
7                        a medium access control (MAC) mechanism which wirelessly exchanges the data  
8                packets between the multiprotocol device and other IEEE 802.11 compliant devices,  
9                        wherein the device is capable of engaging in simultaneous distinct channel  
10                IEEE 802.11a, 802.11b and 802.11g communications.
- 1        2. (original)        The multiprotocol device of Claim 1 wherein:  
2                the data flow structure comprises one wired portal and two or more wireless  
3                portals, each portal consisting of a transmit queue and an associated receive buffer; and  
4                        interconnections between distinct pairs of wired and wireless portal receive  
5                buffers and transmit queues such that any data packet externally deposited at any one  
6                portal receive buffer is internally routed to one appropriate other portal transmit queue,  
7                and

8                   the MAC mechanism provides for distinct, sequential time intervals assigned to  
9                   each wireless portal, only during which data packets can be transmitted from or received  
10                  by said wireless portal, and where each time interval includes a beginning and end  
11                  indicated by specific, standard 802.11 MAC management or control data packets.

1       3. (original)     The multiprotocol device of Claim 2, wherein  
2                   one wired portal and two wireless portals are used for internal datagram  
3                  routing, and  
4                   wherein all wireless communications conforming to the IEEE 802.11a  
5                  standard are routed through one wireless portal on one 5 GHz band RF channel, and  
6                  wherein all wireless communications conforming to the IEEE 802.11b/g standards are  
7                  routed through the other wireless portal on one 2.4 GHz band RF channel, and  
8                  wherein the multiprotocol device, referred to as a multiprotocol access point,  
9                  complies with all relevant IEEE 802.11 standards regarding access point devices.

1       4. (original)     The multiprotocol device of Claim 2 wherein the multiprotocol device  
2                   is configured to communicate wirelessly with an upstream multiprotocol device, and  
3                  wherein three wireless portals are used for internal datagram routing, and  
4                  wherein all wireless communications routed through the first of the three  
5                  wireless portals conform to a designated IEEE 802.11a or 802.11b/g standard and  
6                  occur on the same RF channel as that used by a wireless portal belonging to the  
7                  upstream multiprotocol device, and

wherein all wireless communications routed through the second of the three wireless portals conform to the IEEE 802.11a standard and occur on a 5 GHz band RF channel distinct from the channel used by the first wireless portal, and

wherein all wireless communications routed through the third of the three wireless portals conform to the IEEE802.11b/g standard and occur on a 2.4 GHz band RF channel distinct from the channel used by the first wireless portal, and

wherein the multiprotocol device, referred to as a multiprotocol repeater, complies with all relevant IEEE 802.11 standards regarding access point devices.

5. (currently amended) A combination multiprotocol device comprising:

a first IEEE 802.11 compliant wireless local area network (WLAN) multiprotocol device multiprotocol device ~~of Claim 2~~ and

a second IEEE 802.11 compliant wireless local area network (WLAN) multiprotocol device multiprotocol device ~~of Claim 2~~, the second multiprotocol device being different from the first multiprotocol device,

wherein each of the first and second multiprotocol devices comprises:

one frequency band agile, complementary code keying (CCK) and orthogonal frequency division multiplex (OFDM) modulation-capable radio;

a data flow structure framework which organizes and routes transmitted and received data packets within the multiprotocol device; and

a medium access control (MAC) mechanism which wirelessly  
exchanges the data packets between the multiprotocol device and other  
IEEE 802.11 compliant devices,  
wherein the device is capable of engaging in simultaneous distinct  
channel IEEE 802.11a, 802.11b and 802.11g communications; and  
wherein the data flow structure comprises one wired portal and two  
or more wireless portals, each portal consisting of a transmit queue and an  
associated receive buffer; and interconnections between distinct pairs of  
wired and wireless portal receive buffers and transmit queues such that  
any data packet externally deposited at any one portal receive buffer is  
internally routed to one appropriate other portal transmit queue, and  
the MAC mechanism provides for distinct, sequential time  
intervals assigned to each wireless portal, only during which data packets  
can be transmitted from or received by said wireless portal, and where  
each time interval includes a beginning and end indicated by specific,  
standard 802.11 MAC management or control data packets;

wherein one of the multiprotocol devices is configured to communicate wirelessly  
with one separate upstream multiprotocol device and

wherein one of the multiprotocol devices uses one wired portal and one wireless  
portal for internal datagram routing, and

wherein the other multiprotocol device uses one wired portal and two wireless  
portals for internal datagram routing, and

35                wherein the multiprotocol devices are externally interconnected at their wired  
36                portals, and

37                wherein all wireless communications routed through one of the combination  
38                multiprotocol device's wireless portals conform to one designated IEEE 802.11a or  
39                802.11b/g standard and occur within the same RF channel as that used by a wireless  
40                portal belonging to the upstream multiprotocol device, and

41                wherein all wireless communications routed through another of the combination  
42                multiprotocol device's wireless portals conform to the IEEE 802.11a standard and occur  
43                within a 5 GHz band RF channel distinct from the channel used by the first wireless  
44                portal, and

45                wherein all wireless communications routed through the remaining combination  
46                multiprotocol device's wireless portals conform to the IEEE802.11b/g standard and occur  
47                within one 2.4 GHz band RF channel distinct from the channel used by the first wireless  
48                portal, and

49                wherein the combination multiprotocol device, referred to as a high capacity  
50                multiprotocol repeater, complies with all relevant IEEE 802.11 standards regarding  
51                access point devices.